

appears as a very good species. Side by side with New England specimens there is practically no difference except in the thickness of the shell. That counts for nothing in determining a species. For example take New England *Purpura lapillus* and see the thin paper shell from one region and the heavy robust one from another locality. Add now *O. bisuturalis* and *trifida*. What determines the species? Revolving lines are interesting marks, but we have no standard, variety is everywhere. I take a few examples from my own cabinet; for convenience I will number the grooves from suture to the shoulder on the last whorl 1, 2, 3, 4. Here are some results:

Branford specimens vary thus: 1000-1004-1200-1204-1234.

Woods Holl: 1000-1004-1200-1204.

Sheepscote River, Maine: 0000-1000-1200-1234+.

Prince Edwards Island: 1000-1234+.

The plus sign means that additional lines appear, usually less conspicuous, between the more usual grooves. Perhaps this list may be altered, but I let it stand. There is so much difference, some deeply grooved while others are faintly marked. The above is the result of using a good lens and strong light across the lines. It looks as if these three species would have to shake hands and be one. I may add that the specimens from Maine and Prince Edward's Island are more deeply marked than the shells from southern New England.

NOTICES OF NEW JAPANESE LAND SNAILS.

BY HENRY A. PILSBRY.

Helicina osumiensis n. sp.

Shell depressed, convex above and below, bluntly angular at the periphery, rather thin, red; striatulate, and under a strong lens showing fine spiral striæ. Spire low-conic, the apex obtuse; whorls 4, scarcely convex, the last somewhat flattened above the peripheral angle. Aperture oblique, irregularly semicircular, the peristome very slightly expanded, upper margin nearly straight; a moderately thick, smooth callus on the base. Alt. $2\frac{1}{2}$, diam. 4 mm.

Kikai, province Osumi, southern Kiusiu (Mr. Y. Hirase).

Closely related to *H. verecunda* Gould (*Otia Conchologia*, p. 105) from the Loo Choo Islands, but much smaller, with the basal callus smooth, not roughened or pitted as in that species.

H. verecunda is cream-white with reddish streaks, or red with or without whitish streaks; the color "*luteo-virens*" described by Gould being due to the dried animal which shows through in places with a dark green tint. The half dozen specimens of *H. osumiensis* before me are uniform red.

Mr. Y. Hirase has distributed *H. verecunda* as No. 470, from Loo Choo (Riu Kiu, or Ryu Kyu). The specimens agree with one of Gould's original lot, in the collection of the Academy. I suppose they are from Okinawa Island. So far, we know scarcely anything of the snail fauna of the other islands of the group. Recent subsidence and breaking up into islands, of a ridge running from Okinawa to Kiusiu is suggested by the close alliance of the southern Kinsiu and Loo Choo faunas.

The *Helicina hakodadiensis* of Hartman (1890) has been rediscovered by Mr. Hirase at Kayabe, Ojima, Hokkaido Id. (No. 595). It is quite a distinct species, more angular at the periphery than other Japanese forms, and with the ruddy color of *H. osumiensis* and the American *H. occulta*. *H. hakodadiensis* is, next to the last-named species, the northernmost of its genus, its locality lying in about 42° N. Lat., while *occulta* extends to about 44° N.

Helicina Reini var. *uzenensis* n. var. Shell differing from *H. reini* Kobelt in being larger, pink or whitish-pink under a yellowish chestnut-colored cuticle, which remains in shreds and streaks only, and in the closely and deeply striated surface. Alt. 12, diam. 15 to 16 mm. Nishigo, Uzen.

Vertigo Hirasei n. sp. A minute, ovate, glossy-brown species with $4\frac{1}{2}$ whorls, the aperture having a parietal and a columellar lamella, and two palatal folds, the lower larger, elongate, the upper tuberculiform, sometimes obsolete. Alt. 1.5, diam. 1 mm. Yanagawa, prov. Chikugo, Kiusiu Id. (Mr. Hirase, No. 570).

Bulininus callistoderma var. *ogasawaræ* n. v. Similar to *callistoderma* in texture, sculpture and color, but distinctly longer, with 7 whorls, the spire perceptibly attenuated below the thick, obtuse apex. Length 13, diam. $5\frac{1}{2}$, length of aperture 5 mm.; length $12\frac{1}{2}$, diam. $5\frac{1}{3}$, aperture $5\frac{1}{3}$ mill. Ogasawara or Bonin Is. (Mr. Y. Hirase, No. 602).

Bulininus eucharistus n. sp. Shell rimate, high-conic, solid, purplish-brown, closely streaked with whitish or yellow. Spire straightly conic, the apex obtuse; whorls $8\frac{1}{2}$ -9, moderately convex,

sculptured with growth-wrinkles and in places faint spiral striae. Aperture slightly oblique, ovate, purplish-black within, the peristome white or flesh-colored, reflexed; parietal callus transparent; columella not perceptibly folded, oblique above, brown within. Length 26.5, diam. 11, length of aperture 10.3 mm.; 25.5, 11, 11 mm. Loo Choo Is. (Mr. Y. Hirase, No. 597). This is by all odds the handsomest Japanese *Buliminus*, being remarkably rich in color for the genus.

Buliminus luchuanus n. sp. Shell dextral, rimate, oblong-fusiform, rather thin, dark brown, copiously streaked with ragged cream-white stripes; obliquely wrinkle-striate and very minutely striated spirally. Outlines of the spire a little convex, apex obtuse, whorls $8\frac{1}{2}$, moderately convex. Aperture ovate, slightly oblique, orange-brown within, the peristome white, reflexed; columella oblique, the margin dilated; parietal callus transparent and thin. Length 21, diam. 7.5, length of aperture 8 mm. Loo Choo Is. (Mr. Y. Hirase, No. 598). Streaked like the sinistral Chinese *B. Fultoni* S. & B., or like *B. fasciolatus* Oliv., of Rhodes.

Eulota (Ægista) Martensiana n. sp. Somewhat similar to *E. Friedeliana*, but more elevated, the whorls larger in calibre, more slowly increasing, color darker, and sculpture stronger and more dense. Spire low-conic, whorls almost 7, convex, the last slightly carinate, shortly descending in front; sculpture rasp-like, consisting of *densely crowded*, short, erect scales, which are not shaggy. Umbilicus open, its width contained $3\frac{1}{2}$ times in that of the shell. Aperture oblique, subcircular, one-fourth excised by the parietal margin, lip narrowly reflexed, white. Alt. $10\frac{1}{2}$, diam. $17\frac{1}{2}$ mm. Sedake, Osumi, Kiusin Id. (Mr. Y. Hirase). Named in honor of Prof. E. von MARTENS, of Berlin, whose wide-spread labors include several valuable papers upon the mollusks of Japan.

Eulota (Plectotropis) inornata n. sp. Shell umbilicate, the diam. of umbilicus contained about 6 times in that of the shell, low conoid with convex base, thin, somewhat translucent, pale corneous, sculptured with slight growth-wrinkles and fine, close spiral striae. Whorls $5\frac{2}{3}$, somewhat convex, the last with an acute, submarginate, smooth, peripheral carina; hardly descending in front. Aperture oblique, angular, the peristome thin, very narrowly expanded and subreflexed below, dilated at the columellar insertion. Alt. 6.3, diam. 12.5 mm. Loo Choo Is. (Mr. Y. Hirase).

GENERAL NOTES.

VALLONIA PULCHELLA.—You may remember that in '97 I sent you a note concerning the sudden appearance of *Vallonia pulchella* in immense numbers in Pittsburg, Pa. A similar case has just been brought to my attention by a friend who lives about 6 miles out of town. Sometime in September he found his front walk (stone) covered with "thousands of small shells," and about two weeks later they appeared again. He saved a few for me and they prove to be *Vallonia pulchella*. Are such occurrences common?—G. H. CLAPP.

AN ADDITION TO THE U. S. LAND SNAIL FAUNA.—For the past three years I have had three adult and three young examples of a *Truncatella* from Key West, Fla., collected by Hemphill, which I had labeled, provisionally, *T. bilabiata* (they were sent as "*T. pulchella* var."), but which I was satisfied, from the very coarse and widely-spaced ribs, were something else. Your Bermuda paper has put me on the right track, as they agree *perfectly* with the "key" to and figure of *Truncatella clathrus* Lowe, so we must add this species to the U. S. fauna.—G. H. CLAPP.

PUBLICATIONS RECEIVED.

SYNOPSIS OF THE NAIADES, OR PEARLY FRESH-WATER MUSSELS. By Charles Torrey Simpson. viii + 544 pp. (Proc. U. S. Nat. Mus. xxii, 1900.) This work presents an epitome of the author's studies during many years upon the *classification* of the fresh-water mussels, the *synonymy of the species*, and their *geographic distribution*. It is, in fact, a continuation of the famous series of synopses issued by ISAAC LEA; an *arrangement* of the mussels, not a work for the determination of species.

The classification of the family *Unionidæ* is almost completely original with Mr. Simpson, and it need not be said, must appear strange to those acquainted with the old arrangement of the group. The treatment of *Mutelidæ* is less revolutionary. The fundamental division of the *Unionidæ* rests upon the modifications of the ovisacs, or modified gill pouches of the female carrying the embryos; the sculpture of the beaks of the shell also affording characters of great value, being shown to be correlated with features of the soft anatomy.